

CLOSURE PLAN
INCINERATOR TREATMENT and WASTE PILE
STORAGE UNITS
LURIA BROTHERS SITE
GARY, INDIANA
IND095264818

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AND HAZARDOUS
WASTE MGMT
DEM

EPA Region 5 Records Ctr.



318398

Prepared For
MR. DEREK S. HAROLD
Project Manager
LURIA BROTHERS
20521 Chagrin Boulevard
Cleveland, Ohio

ATEC

ATEC Associates, Inc.



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November 30, 1988
File 8-3254

Mr. Derek S. Harold, Project Manager
Luria Brothers
20521 Chagrin Boulevard
Cleveland, OH 44122

CLOSURE PLAN

Incinerator Treatment and Waste Pile Storage Units
Luria Brothers Site
Gary, Indiana
IND095264818


Dear Mr. Harold:

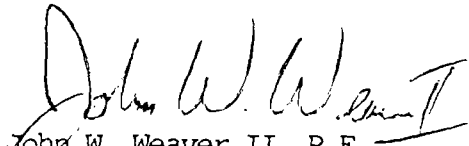
We have completed a closure plan for the above referenced project. This work was performed in accordance with your written authorization dated September 9, 1988.

This closure plan is intended to address the closure of one incinerator treatment and two related waste pile storage units for which a Part A Permit Application was filed as a precaution measure. In preparation of this closure plan, we have discussed the project with personnel of the Indiana Department of Environmental (IDEM), reviewed our prior work on the site, and reviewed an August 16, 1988 correspondence from the IDEM. An introduction is presented in Section 1.0, a response to IDEM's August 16, 1988 letter is provided in Section 2.0, the general closure plan is presented in Section 3.0, and specific closure requirements are addressed in Sections 4.0 and 5.0 for the incinerator treatment unit and waste pile units, respectively.

We trust this information is sufficient for your current needs. If you have any questions regarding this closure plan, please do not hesitate to contact us.

Very truly yours,
ATEC Associates, Inc.


Steven Stanford
Environmental Manager


John W. Weaver II, P.E.
Vice President

ATEC Offices

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1.0 INTRODUCTION

1.1 General

The former Luria Brothers site is located just south of Industrial Highway and west of the EJ & E Railroad tracks in a highly industrialized urban area of Northwest Indiana. This site is adjacent to the CERCLA Conservation Chemical site in Gary, Indiana. Luria Brothers operated a mill scale deoiling facility on this site from 1978 - 1981. During this time, mill scale containing approximately 1% lubricating oil was processed at this facility. The mill scale was not a RCRA waste. This material was generated by the Inland Steel Company and the deoiled mill scale was returned to Inland after processing.

1.2 Project Information

In addition to the mill scale, a small amount (approximately 659 tons) of waste water treatment plant sludge from Bethlehem Steel's Burns Harbor facility was also processed and returned to the generator by Luria Brothers. Since it was determined that the waste water treatment plant sludge may be a hazardous waste under the Resource Conservation and Recovery Act (RCRA) regulations, Luria Brothers filed a Part A Permit Application with the U.S. EPA Region V as a hazardous waste treatment facility. This filing was undertaken purely as a precautionary measure. Later, Luria Brothers requested that this permit application be withdrawn. To date, this permit application has not been withdrawn by the regulators. In a correspondence dated June 1, 1987 the Indiana Department of Environmental Management (IDEM) requested that a closure plan be submitted for this facility.

RCRA units which were listed in the Part A Permit Application included T04, an incinerator treatment unit (a rotary kiln) and S03, a waste pile storage unit. One incinerator treatment unit and two former waste piles (one of the piles is comprised of two nondescrete piles located within 100 feet of each other) exist on the site.

Luria Brothers is providing the following closure plan for the incinerator treatment unit (a rotary kiln) and the waste pile storage unit consisting of the former raw mill scale stockpile and two former processed mill scale stockpiles located less than 100 feet apart. As discussed in Section 3.0, this plan specifies steps to "clean-close" the facility, leaving no hazardous inventory, residues, or contamination on site.

In addition to closure of RCRA units at the site, several other items are of concern. These items include two (2) fuel oil storage tanks which were formerly used to store burner fuel for the kiln and seventeen (17) drums containing oil, rags and antifreeze. At the IDEM's request, the heating oil storage tanks were decontaminated (oily residues were removed), and the tanks were cut up and scrapped. This work was performed by Resource Unlimited (RUI) of Darien, Illinois.

RUI is currently under contract to transport and properly dispose of the drums located on site. These drummed wastes, along with tank bottoms from the oil tanks will be disposed of by EWR of Coal City, Illinois. This work will be completed once Luria Brothers receives an Illinois generator I.D. number and obtains a permit for disposal of the drums. Work performed during this effort included sampling and analysis of the oily residues in the drums for PCB's. Analytical results, provided by EMS Laboratories, Inc., indicate that the oily residues were free of PCB contamination. For detailed results, refer to the "Laboratory Data/Water" Appendix.

1.3 Plant Operations

The raw mill scale was transported to the site by truck and stockpiled to the east of the processing unit. This material was then transferred by a front end loader to a conveyor where trash and large scrap were removed. The raw mill scale was introduced into a rotary kiln via another conveyor. Using natural gas or #2 fuel oil, the raw mill scale was heated in the kiln to the point that the oil was volatilized and burned. The deoiled mill scale was then removed from the kiln and stockpiled for reclamation. The processed mill scale was then loaded on trucks using a front end loader and transported by truck to the original generator.

The products of combustion from the rotary kiln were directed to an exhaust stack where after-burners, also fueled by natural gas or #2 fuel oil, further oxidized the combustibles. The particulates in the exhaust gases were then removed by a wet scrubber before being discharged to the atmosphere. The dirty scrubber water was directed to a concrete banker/basin where the particulates were allowed to settle out. The treated water was then recycled back to the scrubber system. The settled particulates were periodically removed from the basin and returned to the generator with the processed mill scale. The layout of this facility is shown in the attached figures.

2.0 RESPONSE TO IDEM COMMENTS

General

In this section we provide specific responses to comments by the IDEM contained in Thomas E. Linson's letter dated August 16, 1988. This letter was provided in review of our "Environmental Site Assessment Report" dated June 29, 1988. According to IDEM, these comments (and the following responses) are relevant to the preparation of a closure plan for this site. Our responses follow IDEM comments, in a comment and answer format.

C-1 Provide data not reported on analysis for arsenic and silver.

R-1 These results, for soil samples labelled RMS-1 through RMS-6, are presented in the "Laboratory Data/Soils" Appendix. These results include data for arsenic and silver.

C-2 Provide information on the present contents or last recorded contents of the tanks. Provide an interior description.

R-2 Tanks formerly located at Luria Brothers included a 1,500 gallon and a 7,500 gallon storage tank used to store fuel oil to fire the rotary kiln. During November, 1988, these tanks were dismantled and scrapped by Resources Unlimited (RUI). This process included degassing of the storage tanks, removal of oily residue contained in the tanks, and the dismantling of the tanks for proper disposal by a scrap metal dealer.

C-3 Disposition of the waste sludge for which the facility submitted a Part A is not resolved. Provide a description of the waste sludge holding area, also a description of the decontamination process.

R-3 In July, 1981, 695 tons of waste sludge was received, processed, and then returned to the generator (Bethlehem Steel Corporation's Burns Harbor Plant). We have contacted the environmental control staff at Bethlehem steel and it has been indicated that manifests documenting the final disposition of the sludge will be provided. We will forward copies of this documentation as it becomes available.

Waste sludges were temporarily stored in the waste pile units shown in Figure 1. These units consisted of an area where mill scale was stored in a pile on the ground surface. All unprocessed sludge was then placed onto a conveyor, using a front end loader, and fed into the thermal dryer (the rotary kiln). All processed material was discharged from the kiln onto a conveyor and temporarily placed in inventory. The processed inventory was then placed into trucks and returned to Bethlehem Steel. At completion of processing, conveyors, mobile equipment, and the rotary kiln were cleaned by hand and no material remained in the system. Waste pile storage units were decontaminated by physically removing the sludges temporarily held in inventory. Sampling and analysis results for the waste pile storage units, summarized in Tables 1 and 2 and presented in detail in the "Laboratory Data/Soils" Appendix indicate that decontamination of the storage units was successful, i.e., no significant contamination remains in the units.

C-4 The drum contents listed in Table 3 are not described as hazardous or non-hazardous. Provide in detail a description supporting the hazardous or non-hazardous determination of each drum's contents.

R-4 As part of the permitting process to dispose of the drums, contents of the drums were sampled and analyzed for PCB content. As shown in the "Laboratory Data/Water" Appendix, these drums do not contain PCB's. The drums are currently slated for disposal as hydrocarbon products by EWR of Coal City, Illinois. Contents of the drums will be disposed in accordance with Illinois regulations pertaining to used oil.

C-5 The VOA data presented in Appendix A include two (2) duplicates and one (1) sample. Provide results and data on other VOA samples as described on page No. 5 of the report.

R-5 Results discussed on Page 5 of the report are presented in the "Laboratory Data/Soils" Appendix to this closure plan.

C-6 Several times reference is made to a kiln on the property. Kilns and kiln dust, by nature, are often hazardous. Provide rationale or data supporting the non-hazardous description.

R-6 To substantiate the non-hazardous description of the rotary kiln, a representative sample of scrubber sludge (from the kiln's air pollution control system) was collected from the concrete bunker just south of the kiln building (as shown in Figure 1). In summary, laboratory results indicate that EP-toxic metals are below detection limits, reactive sulfides and cyanides are below detection limits, the flash point is greater than 140°F, and the pH is 10.6. For detailed results, refer to the "Laboratory Data/Soils" Appendix. Since these results indicate that the scrubber sludge is essentially inert, we believe that this information supports the non-hazardous description.

3.0 CLOSURE PLAN

Closure Performance Standards: 329 IAC 3-21-2

The following closure plan is designed to minimize the need for post-closure maintenance and controls, minimizes or eliminates post-closure escape of hazardous waste, hazardous constituents, leachate, contaminated run-off, or hazardous waste decomposition products to the ground or surface waters or to the atmosphere. This plan specifies in detail the steps needed to decontaminate the hazardous waste management units, and to sample and analyze the subsoils to demonstrate the success of the decontamination activities.

Closure Plan; Amendment of Plan: 329 IAC 3-21-3

The following closure plan will be furnished to the commissioner upon request, and contains steps necessary to perform final closure of the facility including but not limited to the following:

- (1) A description of how each hazardous waste management unit at the facility will be closed in accordance with 329 IAC 3-21-2.
- (2) A description of how final closure of the facility will be conducted in accordance with 329 IAC 3-21-2. The description must identify the maximum extent of the operation which will be closed during the active life of the facility.
- (3) An estimate of the maximum inventory of hazardous wastes ever on-site over the active life of the facility and a detailed description of the methods to be used during partial and final closure, including but not limited to methods for removing, transporting, treating, storing, or disposing of all hazardous wastes, identification of and the type(s) of off-site hazardous waste management unit(s) to be used if applicable.

(4) A detailed description of the steps needed to remove or decontaminate all hazardous waste residues and contaminated containment system components, equipment, structures, and soils during partial and final closure including, but not limited to, procedures for cleaning equipment and removing contaminated soils, methods for sampling and testing surrounding soils, and criteria for determining the extent of decontamination necessary to satisfy the closure performance standard.

(5) A detailed description of other activities necessary during the partial and final closure period to ensure that all partial closures and final closure satisfy the closure performance standards.

(6) A schedule for closure of each hazardous waste management unit and for final closure of the facility. The schedule must include, at a minimum, the total time required to close each hazardous waste management unit and the time required for intervening closure activities which will allow tracking of the progress of partial and final closure.

(7) An estimate of the expected year of final closure for facilities that use trust funds to demonstrate financial assurance under 329 IAC 3-22-4 or 329 IAC 3-22-14 and whose remaining operating life is less than twenty (20) years, and for facilities without approved closure plans.

Description of Partial and/or Final Closure: 329 IAC 3-21-3

The units requiring closure are listed on Luria Brothers Part A Permit and include an incinerator treatment unit and a waste pile storage unit. Since no RCRA units are to remain unclosed at this site, steps listed below describe the final closure of the facility. Only a small quantity of potentially hazardous waste was processed (approximately 659 tons) compared to an average monthly process flow of 30,000 tons/month for non-RCRA mill scale.

All inventory and residues from the potentially hazardous sludge were removed from the system and returned to the generator. Based on this information as well as sampling and analytical data from the site, this plan specifies a "clean-closure", after which (and currently), no hazardous inventory, residue, or contamination will remain on site.

The technical approach to final closure is as follows:

(1) Subsequent to the processing of the final batch of potentially hazardous sludge, the incinerator treatment unit, including conveyors, mobile equipment, and the rotary kiln were cleaned by hand and no material remained in the system. The waste pile storage unit, including the former raw mill scale stockpile and former processed mill scale piles, were emptied of potentially hazardous inventory during August, 1981. Decontamination included removal of inventory and residues using a front end loader. Inventory and residues removed from the units were returned to the generator (Bethlehem Steel) during August, 1981.

(2) To verify the successful decontamination of the incinerator treatment unit, the kiln and remaining treatment unit were visually inspected to check for remaining inventory and/or residues. No remaining inventory or residues were observed. To further verify decontamination and to demonstrate the non-hazardous nature of kiln scrubber sludges (kiln dust), a representative sample of kiln scrubber sludge was collected and submitted for analysis. Results indicate the material does not exhibit the characteristics of hazardous waste. The sample location is shown in Figure 1. For a more detailed discussion of sampling and analysis results, refer to Section 4.0. Detailed results for the scrubber sludges, labeled KD-1, are presented in the "Laboratory Data/Soils" Appendix.

(3) To verify the removal of inventory, residues, and successful decontamination of the waste pile unit, six (6) discrete soil samples were collected and analyzed. In summary, results of this sampling and analysis indicate no remaining contamination in excess of typical concentrations found in urban soils in Northwest Indiana. Sampling locations are shown in Figure 1. For a more detailed discussion of procedures and results, refer to Section 5.0. Detailed results are presented in the "Laboratory Data/Soils" Appendix.

(4) Heating oil storage tanks (non-RCRA tanks) formerly located at the facility were removed from the site during November, 1988. Seventeen (17) drums containing oil, rags, and antifreeze will also be removed from the site once a permit is obtained.

Maximum Extent of Operation: 329 IAC 3-21-3(b)

The maximum waste inventory during the operational life of the facility was approximately 659 tons. This quantity comprises the total amount of potentially hazardous waste which was processed at the facility during its operational life.

Estimate of Year of Closure and Schedule of Closure: 329 IAC 3-21-3(b)

Estimated

Elapsed Time
(days)

Activity

90	Remove drums from site.
120	Independent Certification of closure is completed.
180	Certification submitted 329 IAC 3-21-3(c).

Amendment of Plan: 329 IAC 3-21-3(c)

The closure plan submitted herein identified the steps necessary for final closure of the Luria Brothers site. These steps and this closure plan will be amended whenever changes in the operating plans or facility design effect the plan, or whenever there is a change in the expected year of closure. This plan will be amended within 60 days of such changes.

Certification of Closure: 329 IAC 3-21-6

Certification of closure by an independent professional engineer who is not an employee of Luria Brothers or a Luria Brothers subsidiary will be submitted within 60 days of the completion of closure. This submittal will certify that the closure plan was carried out in accordance with the specifications contained in the approved closure plan.

Cost Estimate when Closure is Most Expensive: 329 IAC 3-22-3(a)

Final closure represents the time at which closure will be most expensive. The following cost estimate includes items which we believe are necessary for final closure. This estimate recognizes that the waste inventory and residues have been removed from the site and decontamination is complete.

COST ESTIMATE

a. Completion of closure plan by ATEC Associates, Inc.....	\$6,000
b. Removal of drums temporarily stored on site.....	\$2,090
c. Certification of Closure.....	<u>\$2,000</u>
Total Estimated Cost.....	\$10,090

Revisions to Closure Cost Estimates: 329 IAC 3-22-3(b) and (c)

Cost estimates submitted herein identify the costs for final closure of the Luria Brothers facility. This cost estimate will be amended whenever changes in the operating plans or facility design effect the costs. These estimates will be amended within 60 days of such changes.

4.0 CLOSURE OF INCINERATOR TREATMENT UNIT

329 IAC 3-29-5 Closure and Post-Closure Care of Incinerator Treatment Unit

At closure, the owner or operator must remove all hazardous waste and hazardous waste residues, (including but not limited to ash, scrubber wastes, and scrubber sludges from the incinerator. At closure, as throughout the operating period, unless the owner or operator can demonstrate, in accordance with 329 IAC 3-3-3 (b), that the residue removed from his incinerator is not a hazardous waste, the owner or operator becomes a generator of hazardous waste and must manage it in accordance with all applicable requirements of 329 IAC 3-7 through 329 IAC 3-32.

In order to substantiate the non-hazardous description of the rotary kiln and to demonstrate that the on-site scrubber sludges generated by the rotary kiln are not a characteristic hazardous waste as defined under 329 IAC 3-5, a representative sample of the scrubber sludge was collected from the concrete bunker just south of the kiln building (as shown in Figure 1) and submitted to ATEC's laboratory in Indianapolis for analysis.

In summary, results of this analysis indicate that the waste does not exhibit the characteristics of ignitability, corrosivity, reactivity, or toxicity. Results indicate EP-toxic metals are below reported detection limits, reactive sulfides and cyanides are below detection limits, the flash point is greater than 140⁰F, and the pH is 10.6. For detailed analytical results, refer to the "Laboratory Data/Soils" Appendix.

We are aware of statistical assessment requirements for analytical data generated to determine whether solid wastes are hazardous. However, since these results indicate that the scrubber sludge is essentially inert and none of the laboratory results approach regulatory thresholds, it is our opinion that the single representative sample is sufficient to demonstrate that the residual scrubber sludges are not a hazardous waste in accordance with 329IAC 3-3-3 (b).

5.0 CLOSURE OF WASTE PILE UNITS

329 IAC 3-26-8 Closure and Post-Closure of Waste Pile Units

At closure, the owner or operator must remove or decontaminate all waste residues, contaminated containment system components (liners, etc.), contaminated subsoils, structures, and equipment contaminated with waste and leachate, and manage them as hazardous waste.

During August, 1981, potentially hazardous waste sludges and residues were removed from the waste pile units using a front end loader during August, 1981. To verify the success of decontamination, six (6) soil samples were collected from the waste pile units at the locations shown in Figure 1. Three (3) samples were collected from the former raw mill scale stockpile located east of the main kiln building. In addition, three (3) samples were collected from the former processed mill scale stockpiles southwest of the main kiln building. Discrete samples were collected from the top six (6) inches of soil through use of a pick and hand shovel.

To minimize the possibility of contamination between samples, the sampling devices were decontaminated between sampling events by an Alconox wash and distilled water rinse. Approximately equal amounts of material were obtained from each sampling location, placed directly into appropriate containers, preserved at 4 degrees Celcius, and transported over night to the laboratory for analysis accompanied by proper chain-of-custody documents. This sampling program was reviewed by the Indiana Department of Environmental Management (IDEM) and found to be acceptable prior to its implementation.

Analytical Test Results

The six (6) discrete soil samples were collected and analyzed for volatile organic compounds (VOC's) as well as total and E.P. toxic RCRA heavy metals as requested by IDEM. The results of these analyses are summarized in Tables 1 and 2. The complete analytical data, together with laboratory QA/QC procedures are presented in the "Laboratory Data/Soils" Appendix.

With the exception of trace concentrations of methylene chloride detected in all six samples, all VOC's were below quantitation levels in all samples. Methylene chloride is a common in-house laboratory contaminant. Also, methylene chloride was found in the method blank, indicating that it is a laboratory artifact.

As shown in Table 1 the concentrations of all E.P. toxic heavy metals for these samples are well below the levels required to classify a material as a characteristic hazardous waste. The concentrations of total RCRA heavy metals found in the six soil samples are well within the typical range for these metals in soils in urban areas of Northwest Indiana.